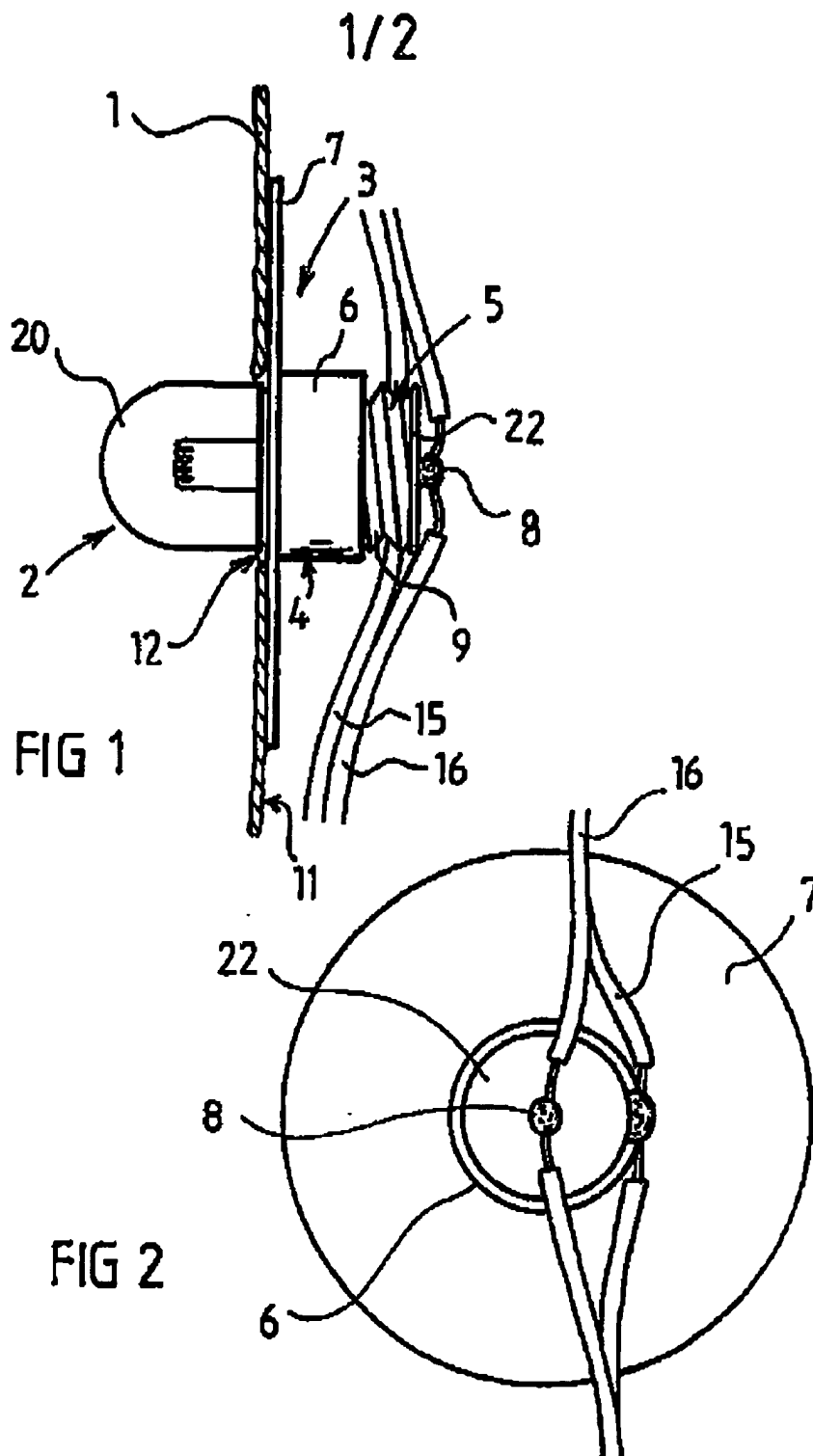


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EX4 4HJ, United Kingdom****(51) INT CL⁵****F21V 33/00****(52) UK CL (Edition M)****F4R RAG RPG R335 R417 R421****(56) Documents Cited****None****(59) Field of Search****UK CL (Edition M) A6M MPB MFC, F4R RAG RPG****INT CL⁵ F21V 33/00****Online database: WPI****(54) Starcloth**

(57) Starcloth comprising a sheet of flexible material carrying an array of holders for light-emitting means, the holder being connected to electrical feed wires located on a rear side of the sheet and the holders being arranged such that a respective light-emitting means can be releasably inserted into the holder to be visible from the opposite side of the sheet.

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At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.



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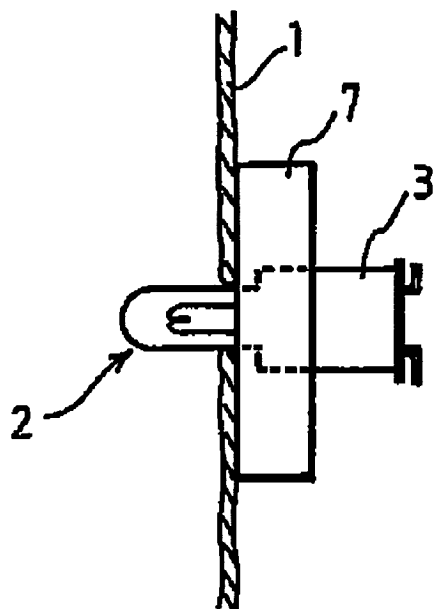


FIG 3

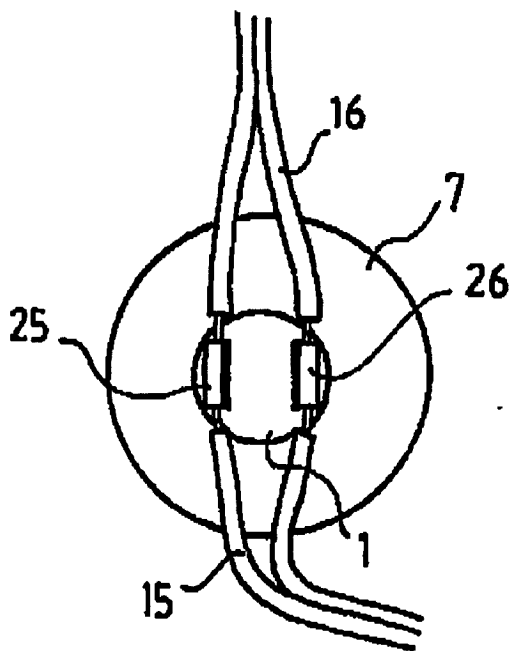


FIG 4

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STARCLOTH

TECHNICAL FIELD OF THE INVENTION

This invention relates to starcloth as used in the entertainment industry.

BACKGROUND

Starcloth has been widely used for several years in the entertainment industry to form backdrops on stages for example. In general, starcloth comprises a sheet of cloth, which may be several metres square and of various colours, carrying an array of miniature lamps, which again may be of various colours. The lamps are soldered to electrical feed wires which are normally disposed on the rear side of the cloth which is normally hidden from view. The lamps are pushed through holes in the cloth to be visible from the front side of the cloth, and resilient retaining rings are often pressed over the lamps at the front of the cloth to retain the lamps in the holes. The lamps may also be permanently secured in the cloth by means of a resin adhesive.

Although this arrangement is commonly used throughout the industry, it has distinct disadvantages. When retaining rings are used for example, if one of

the lamps should fall the ring must first be removed at the front of the cloth, and the lamp must then be unsoldered at the rear of the cloth, a new lamp soldered in, and pushed back through the cloth followed by re-fitting of the ring. This same procedure must be followed in order to change the colour of one, or some, of the lamps.

An aim of the present invention may be viewed as being to overcome these longstanding drawbacks.

SUMMARY OF THE INVENTION

The present invention proposes starcloth comprising a sheet of flexible material carrying an array of holders for light-emitting means, the holders being connected to electrical feed wires located on a rear side of the sheet and the holders being arranged such that a respective lamp can be releasably inserted into the holder to be visible from the opposite front side of the sheet.

The holders could receive filament lamps or other light-emitting devices such as light-emitting diodes.

The holders are preferably secured to the sheet, e.g. by means of an adhesive, and the holders are preferably arranged such that the light-emitting means are inserted from the front of the sheet.

The light-emitting means may be secured in the holders by a linear frictional or similar engagement or by a screw-in type engagement. Other possible forms of engagement include bayonet-type connectors or those which are

retained by means of a groove or flange on the lamp or light-emitting device.

The sheet will usually be of a woven natural or synthetic cloth, although it may also be of a continuous sheet of plastics material for example.

BRIEF DESCRIPTION OF THE DRAWINGS

The following description and the accompanying drawings referred to therein are included by way of non-limiting example in order to illustrate how the invention may be put into practice. In the drawings:

Figure 1 is detailed side view of a section of starcloth of the invention,

Figure 2 is a rear view of the same section of starcloth, looking from the right in Fig. 1, and

Figures 3 and 4 are side and rear views respectively of another form of starcloth of the invention.

DETAILED DESCRIPTION OF THE DRAWINGS

Referring to the drawings, the starcloth includes a black sheet 1 of woven natural or synthetic material, although it will be appreciated that the sheet could be of any suitable material, woven or non-woven, and of any desired colour. The sheet 1 may be several metres across and several metres high. An array of lamps 2 are mounted in randomly spaced positions across the

sheet 1 to be visible when the starcloth is viewed from the front (i.e. from the left in Fig. 1).

Each lamp 2 is mounted in a lamp holder 3 which comprises an outer part 4 of moulded plastics and an inner socket 5 formed mainly of metal. The outer part 4 comprises a generally cylindrical part 6 having an outwardly projecting annular mounting flange 7 at its front end. The socket 5 is again generally cylindrical but is closed at the rear end, with a central electrical connection 8. The side wall 9 of the socket is formed of brass or the like, and is pressed into the form of a screw thread. The socket is mounted inside the cylindrical part 6 such that the closed rear end of the socket 5 projects from the outer part 4.

The holders 3 are secured to the rear face 11 of the sheet 1 by means of a suitable adhesive applied between the sheet 1 and the flange 7. The central opening of each flange 7 is aligned with a hole 12 in the sheet 1 through which a filament lamp 2 can be inserted from the front of the sheet into the socket 5, with the glass bulb 20 of the lamp projecting to the front of the sheet 1. Although in the illustrated example the lamp is screwed into the holder 5 it will be appreciated that the lamp and holder can be adapted so that the lamp can be inserted by a straight linear frictional engagement.

At the rear of the sheet 1, the holders 3 are electrically connected together by pairs of insulated wires 15 and 16, through which electrical power is supplied to the lamps to illuminate them in use. In the region of each holder 3 the insulating sheath is stripped from the two wires 15, 16, which are soldered to the threaded wall 9 of the socket 5 and to the end connection 8 respectively. A fibre or other electrical insulating and heat resistant washer

22 is placed about the connection 8 to reduce the risk of shorting between the bare wires. The washer may also reduce the risk of melting the insulation of the wires during soldering, which could again result in a short circuit.

To change one of the lamps in the event of failure, or to change the colour of the lamp, the lamp 2 is simply removed from the socket and replaced with a new one. The entire operation can be performed from the front of the starcloth, and the holders remain in position when the lamp is removed. Clearly, no soldering is required, so that the entire operation is quick and easy.

The arrangement shown in Figs 3 and 4 is similar to that of Figs 1 and 2 except that the holders 3 are adapted to receive lamps of the kind which are engaged with a linear push-in wedging action. The holder 3 is bonded into a recessed annular mounting disc 7 which in turn bonded to the rear surface of the sheet 1. The feed wires 15 and 16 are soldered to electrical terminals 25 and 26 which project from the rear of the holder 3.

The use of an adhesive for attaching the holders 3 is simple and inexpensive, and the holders are completely hidden behind the cloth. However, the holders 3 could, if desired, be secured to the sheet 1 in other ways, e.g. by using two part snap-fit outer parts 4 which are mutually engaged through the hole 12 from opposite sides of the sheet.

Light-emitting diodes could be used in place of filament lamps, with the holder being arranged to ensure that the diode can only be inserted with the correct polarity.

* * * * *

CLAIMS

1. Starcloth comprising a sheet of flexible material carrying an array of holders for light-emitting means, the holders being connected to electrical feed wires located on a rear side of the sheet and the holders being arranged such that a respective light-emitting means can be releasably inserted into the holder to be visible from the opposite front side of the sheet.
2. Starcloth according to Claim 1, in which the holders include mounting flanges which extend outwardly over the rear surface of the sheet.
3. Starcloth according to Claim 1 or 2, in which the holders are permanently secured to the sheet.
4. Starcloth according to Claim 3, in which the holders are bonded to the sheet by means of an adhesive.
5. Starcloth according to any preceding claim, in which the holders are arranged such that the light-emitting means are inserted from the front of the sheet.
6. Starcloth according to any preceding claim, in which the light-emitting means are secured in the holders by a linear frictional engagement.
7. Starcloth substantially as described with reference to the drawings.

* * * * *

Patents Act 1977
Examiner's report to the Comptroller under Section 17
(The Search report)

Application number
 GB 9408930.7

Relevant Technical Fields

Search Examiner
 S I AHMAD

- (i) UK Cl (Ed.L) A6M (MFB, MFC); F4R (RAG, RPG)
 (ii) Int Cl (Ed.S) F21V 33/00

Date of completion of Search
 29 JUNE 1994

Databases (see below)

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

Documents considered relevant
 following a search in respect of
 Claims :-
 1-7

(ii) ON-LINE DATA-BASE: WPI

Categories of documents

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Category	Identity of document and relevant passages	Relevant to claim(s)
None		

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Application No.: 10/708,915-Conf.#2914

Attorney Docket No.: 01697-00011-US

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Second Supplemental Information Disclosure Statement (IDS) (2 pages);
IDS (Citation) by Applicant (3 References) (1 page)
References GB-2 277 797-A (10 pages) and GB-2 330 196-A (7 pages)